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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/905,279

07/13/2001

Gerard J. Carlson

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03/23/2005

HEWLETT-PACKARD COMPANY

Intellectual Property Administration

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EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,279

Applicant(s)

CARLSON ET AL.

Examiner

Hai C. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>07/13/01</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 1-9 in this Application in the reply filed on 03/07/05 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (U.S. 5,991,008) in view of Curry (U.S. 4,622,593).

Li et al. discloses a system and method for adjusting a length of a scan line produced from a facet of a rotating mirror, wherein the scan line length for each facet is adjusted based on the average of all the scan line lengths.

Li et al. fails to teach the scan line length for a facet is adjusted based on the average of the plural scan line lengths measured for said facet.

Curry teaches the scan line length or scan speed for each facet being calculated by first accumulating the measured values for R polygon revolutions for each facet and then by calculating the average of the obtained values by R for each facet (col. 2, lines 50-56).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to calculate the average of the scan line lengths corresponding to each facet in the device of Li et al. as taught by Curry. The motivation for doing so would have been to maintain the scan line length of each facet at high accuracy as suggested by Curry.

4. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. in view of Curry, as applied to claims 1 and 4 above, and further in view of Bush et al. (U.S. 5,966,231).

Although Li et al., as modified by Curry, teaches each facet of the rotating mirror being distinguished from an adjacent facet in the measurement of the scan line length, Li et al. fails to explicitly disclose the cyclic counter for identifying each facet.

Bush et al. discloses a method and system for aligning multiple laser beams wherein the imaging control circuit includes a facet circular counter (51) that counts the facets of the polygon mirror (22) to distinguish one facet from an adjacent one.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a facet circular counter in the device of Li et al. as taught by Bush et al. The motivation for doing so would have been to accurately identify each facet of the rotating mirror.

5. Claims 3, 6-7 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. in view of Curry, as applied to claims 1 and 4 above, and further in view of Skillman (U.S. 6,351,277).

Li et al. in view of Curry discloses all the basic limitations of the claimed invention except for the scan line length being acquired from a counter that is clocked at a rate of less than 8 times the dot imaging frequency and the control storage medium.

Skillman teaches fine scan line length adjustments using a clock rate of 8 times the basic pixel rate since small error correction requires small pixel clock frequency adjustment (col. 9, lines 26-35). Skillman further teaches the overall operational control comprising using software program stored in a suitable memory (col. 7, lines 26-31).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Li et al. to achieve the overall operational control using software program stored in a suitable memory as taught by Skillman for accuracy and consistency. It would also have been obvious at the time the invention was made to a person having ordinary skill in the art to adjust the scan line length at a rate higher than the basic pixel frequency as taught by Skillman. The motivation for doing so would have been to achieve small error correction with precision.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the clock rate at less than 8 times than the pixel frequency as claimed, since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. in view of Curry and Skillman, as applied to claim 7 above, and further in view of Bush et al.

Li et al., as modified by Curry and Skillman, teaches each facet of the rotating mirror being distinguished from an adjacent facet in the measurement of the scan line length but fails to explicitly disclose the cyclic counter for identifying each facet.

Bush et al. discloses a method and system for aligning multiple laser beams wherein the imaging control circuit includes a facet circular counter (51) that counts the facets of the polygon mirror (22) to distinguish one facet from an adjacent one.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a facet circular counter in the device of Li et al. as taught by Bush et al. The motivation for doing so would have been to accurately identify each facet of the rotating mirror.


Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

March 18, 2005